

## CLAIMS

I CLAIM:

1. An apparatus to permit real time movements and events experienced by one or more individuals to be recorded for subsequent replay in a virtual reality domain,  
5 the apparatus comprising:
  - (i) a GPS receiver for receiving a plurality of GPS signals from a plurality of satellites;
  - (ii) a processor operatively connected to said GPS receiver and programmed to calculate the position of said GPS receiver relative to the surface of the earth based upon said received GPS signals;
  - 10 (iii) a memory module operatively connected to said processor, said processor storing in said memory module data corresponding to the calculated position of said GPS receiver and the movement of said GPS receiver for a time interval, said memory module further storing data corresponding to specific events experienced by an operator of said apparatus during said time interval; and,
  - 15 (iv) means to permit said data corresponding to the movement of said GPS receiver and said data corresponding to events experienced by said operator to be downloaded into the memory of a secondary processor for replaying and simulating said movement of said GPS receiver and the experiencing of said events in a virtual reality domain.

2. The apparatus as claimed in claim 1 received and contained within a portable, handheld housing and powered by an independent internal power supply.
3. The apparatus as claimed in claim 1 including a display panel operatively connected to said processor to visually display the position of said GPS receiver on an overlay map or grid.
4. The apparatus as claimed in claim 3 wherein said display panel comprises an LCD screen.
5. The apparatus as claimed in claim 3 wherein said display panel comprises a heads-up display formed through the projection of an image onto the surface of a visor worn by an operator of said apparatus.
- 15 6. The apparatus as claimed in claim 1 wherein said memory module includes a removable portion, said data corresponding to the calculated position of said GPS receiver, the movement of GPS receiver and said specific events experienced by an operator of said apparatus stored in said removable portion of said memory, said removable portion of said memory capable of being disconnected from said apparatus for independent connection to said secondary processor.

7. The apparatus as claimed in claim 1 including one or more inertia measurement sensors connected to said processor.
- 5       8. The apparatus as claimed in claim 7 wherein said inertia measurement sensors include 1 or more accelerometers.
9. The apparatus as claimed in claim 7 wherein said inertia measurement sensors include one or more gyroscopes.
- 10      10. The apparatus as claimed in claim 7 wherein upon receipt of signals from said 1 or more inertia measurement sensors and receipt of signals from said GPS receiver said processor calculates and records in said memory module one or more of the location of said GPS receiver, the attitude of said apparatus, the acceleration of said apparatus, the deceleration of said apparatus, the velocity, 15      of said apparatus and the time associated with the movement of said apparatus.
11. The apparatus as claimed in claim 3 wherein said overlay map or grid is indicative of the geography and man-made structures associated with the portion 20      of the earth's surface within which said GPS receiver is located.

12. The apparatus as claimed in claim 3 wherein said overlay map or grid is indicative of a fictitious location or includes fictitious objects.
13. The apparatus as claimed in claim 3 including a radio receiver operatively connected to said processor, said radio receiver receiving radio signals from an independent radio transmitter, said radio signals causing said processor to display information on said display panel or causing a said processor to alter images displayed on said display panel.
14. The apparatus as claimed in claim 3 including a radio transmitter and a radio receiver operatively connected to said processor, said radio receiver receiving radio signals transmitted by one or more other such apparatuses wherein said radio signals are indicative of the location of said one or more other apparatuses, said processor programmed to received said radio signals and identify the position of said one or more other such apparatuses on said display panel.
15. A method of electronic gaming utilizing an electronic gaming unit wherein real time movements of one or more individuals or players are recorded for later replay in a virtual reality domain, the method comprising the steps of:
  - 20 (i) with a GPS receiver, receiving a plurality of GPS signals generated from a plurality of orbiting satellites and directing said received signals to a

processor programmed to calculate the position of said GPS receiver relative to the surface of the earth based upon said received GPS signals;

- (ii) in a memory module operatively connected to said processor, storing data corresponding to the calculated position of said GPS receiver and data corresponding to the movement of said GPS receiver for a time interval; and,
- (iii) transporting said data corresponding to the position and the movement of said GPS receiver to a secondary processor for replaying and simulating said movement of said individual and said GPS receiver in a virtual reality domain.

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16. The method as claimed in claim 15 including the further step of storing in said memory module further data corresponding to specific events experienced by said individual while operating said GPS receiver and transporting said data corresponding to said specific events to said secondary processor for replay with said data corresponding to the position and the movement of said GPS receiver.

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17. The method as claimed in claim 15 including the step of transmitting a signal from said processor to a display panel causing said display panel to visually display the position of said GPS receiver on an overlay map or grid.

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18. The method as claimed in claim 17 wherein said GPS receiver, said processor, said display panel and said memory module are contained within a portable handheld housing, said movement of said GPS receiver comprising an individual traversing an area or a pre-determined course over the face of the earth while carrying said portable handheld housing.

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19. The method as claimed in claim 15 wherein said processor is operatively connected to a heads up display, said method including the step of causing said processor to activate said heads up display to project an image of an overlay map or grid for viewing by an individual and to display the relative movement of said GPS receiver on said projected overlay map or grid.

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20. The method as claimed in claim 15 wherein said data corresponding to the calculated position of said GPS receiver and said data corresponding to the movement of said GPS receiver is stored in a removable portion of said memory module, said step of transporting said data corresponding to the calculated position of said GPS receiver and said data corresponding to the movement of said GPS receiver to a secondary processor comprising the disassociation of said removable portion from said memory module and the transportation of said removable portion for physical connection to said secondary processor.

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21. The method as claimed in claim 17 wherein said overlay map or grid is indicative of a fictitious location, said method including the further step of moving said GSP receiver over the face of the earth corresponding to a predetermined path on said overlay map or grid of said fictitious location.

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22. The method as claimed in claim 15 including using one or more inertia measurement sensors to determine one or more of the attitude, the acceleration and the deceleration of said electronic gaming unit.